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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/684,226

10/10/2003

Bruce Rutherford

32087/1010

8629

7590

10/23/2006

Michael L. Goldman  
Nixon Peabody LLP  
Clinton Square  
P.O. Box 31051  
Rochester, NY 14603

EXAMINER

O'CONNOR, CARY E

ART UNIT

PAPER NUMBER

3732

DATE MAILED: 10/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/684,226	RUTHERFORD ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Cary E. O'Connor	3732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 July 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-46 and 48-82 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,3-40 and 50-71 is/are allowed.
- 6) ☒ Claim(s) 41-46, 48, 49 and 72-81 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/1/05</u>   | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 41-46, 48 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mooney et al (5,885,829) in view of Kato (5,871,360). Mooney discloses for treating a tooth that needs regeneration of dentin comprising forming a hole in the tooth to expose at least a portion of pulp, inserting a tissue scaffold into the hole to contact the pulp, and regenerating dentine (see column 7, lines 44-46; column 16, lines 10-23; column 21, lines 27-28; column 38, line 44 to column 39, line 42; column 45, lines 32-33; paragraph bridging columns 61 and 62). Mooney does not disclose the association of calcium phosphate and fluoride with the scaffold. Kato discloses a dental filling material comprising fluoride and calcium phosphate (column 5, last paragraph). It would have been obvious to one of ordinary skill in the art at the time the invention was made to fill the opening created in the method of Mooney with the filling material of Kato, because it would strengthen the tooth and prevent caries (column 5, lines 18-21).

Claims 72, 75-81 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oliva (4,822,278). Oliva shows a vacuum manipulator comprising a vacuum tube 18 having a proximal end 30, a distal end, and walls between the ends enclosing the

Art Unit: 3732

vacuum tube, an attachment 20 at the distal end of the vacuum tube to permit fluid communication between a vacuum source and the vacuum tube, a suction cup 40 attached the proximal end of the tube, and a valve assembly 32 on the tube to close and open fluid access between the tube and a vacuum source 26. The valve assembly is not located at the proximal end of the vacuum tube. It would have been obvious to one having ordinary skill in the art at the time the invention was made to locate the valve assembly at the distal end of the vacuum tube, since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70. As to claim 77, note the hose 22. As to claim 75, note that the vacuum tube has a bend along the length. As to claim 76, the specific kind of vacuum source cannot be given weight in the claim because a vacuum source is not positively claimed. As to claims 78-79, ambient air can be introduced into the tube via valve assembly 32.

Claim 73 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oliva (4,822,278) in view of Groves (2,885,782). The valve assembly of Oliva is not manipulated by a manual dial. Groves shows a vacuum device comprising a valve assembly manipulated by a manual dial 80. It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the valve assembly of Oliva with the valve assembly of Groves, because it would be easier to precisely control the pressure in the vacuum tube.

Claim 74 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oliva (4,822,278) in view of Moore et al (5,855,562). Oliva does not include an in-line filter to prevent the passage of pathogens into the system. Moore shows a dental vacuum

Art Unit: 3732

system having an in-line filter 22. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the vacuum manipulator of Oliva with an in-line filter, as taught by Moore, in order to prevent the egress of pathogens into the vacuum system.

### ***Allowable Subject Matter***

Claims 1, 3-40, 50-71 and 82 are allowed.

### ***Drawings***

The corrected or substitute drawings were received on May 20, 2004. These drawings are not approved.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 80. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Response to Arguments***

Applicant's arguments filed July 24, 2006 have been fully considered but they are not persuasive. Regarding claim 41, applicant argues that calcium phosphate and fluoride would not be suitable as a tissue scaffold. However, it is noted that the calcium phosphate and fluoride are only associated with the scaffold. The claim is not limited to the scaffold including calcium phosphate and fluoride. As to applicant's arguments regarding the rejection of claim 72, note the 35 USC 103 rejection above.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cary E. O'Connor whose telephone number is 571-272-4715. The examiner can normally be reached on M-Th 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cris Rodriguez can be reached on 571-2724964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3732

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Cary E. O'Connor  
Primary Examiner  
Art Unit 3732

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